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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,754	NAKAZAWA ET AL.	
	Examiner	Art Unit	
	Paul Masur	2464	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 December 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *48-62 and 64-71* is/are pending in the application.

4a) Of the above claim(s) *1-47,52,60,62,70 and 71* is/are withdrawn from consideration.

5)☒ Claim(s) *64-67 and 69* is/are allowed.

6)☒ Claim(s) *48-51,53-59,61 and 68* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Response to Arguments

2. Applicant's arguments with respect to claims 48-51, 53-59, 61, and 68 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. **Claims 48-51, 53-59, 61, and 68 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements.** See MPEP § 2172.01. The omitted elements are: the variables or conditions that determine whether encoded data is discarded or error concealment processing commences. The claims recite that encoded data is checked to see if it was delayed or lost, but no indication about how these conditions directly relate to error concealment processing or data discarding.

For the purposes of examination, the examiner will interpret limitations that appear to have an option between error concealment processing and discarding as discarding encoded data. If the applicant desires further clarification on this matter, more information on how to overcome this rejection, please see the Interview Summary

mailed on 01/15/2010. If the applicant desires to initiate an interview with the examiner, they are welcome to do so.

5. **Claims 53-55 and 61 recite the limitation "packet-switched network" and "line-switched network" in the first and second limitations respectively.** There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 48 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooklev (US Patent No. 6,574,218, which was cited in the previous action) in view of Abdeliah et al. (US PG Pub 2006/0209898).

8. **As per claim 48,** Cooklev et al. teach a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types, said apparatus comprising:

decision means for deciding on whether data from at least one of said first and second communication networks has been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.]…and

control means for performing control so that, if the result of said decision indicates that the data from at least one of said first and second communication networks has been delayed in arrival or lost, data for causing a destination terminal of transmission on the other communication network to execute error concealment processing is generated or data acquired is discarded [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

Cooklev et al. do not teach based on at least one of the following events (i) and (ii): (i) comparing the number of encoded data actually acquired in a preset period and the number of encoded data expected to be acquired in said period; and (ii) whether or not succeeding in acquiring encoded data upon attempting to acquire the encoded data in a preset period.

However, Abdeliah et al. teach based on at least one of the following events (i) and (ii):

(i) comparing the number of encoded data actually acquired in a preset period and the number of encoded data expected to be acquired in said period; and

(ii) whether or not succeeding in acquiring encoded data upon attempting to acquire the encoded data in a preset period [Abdeliah, fig. 2 step 303, paragraph 0038,

"a first decision block 303 determines whether or not there are any missing packets. The missing packets can be determined by checking the packet sequence number or by keeping a running count of the number of encoded packets or a current time base counter to determine when to expect the next packet", Packets can be determined as missing based on a time counter that tracks when to expect a packet.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Abdeliah et al. into Cooklev et al., since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Abdeliah et al. suggest the beneficial use of detecting delay in a gateway that services a packet switched and PSTN network [Abdeliah, paragraphs 0031 & 0038] in the analogous art of error handling in media gateways.

9. **As per claim 56,** Cooklev et al. teach a method for processing encoded data by a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types, said method comprising:

(a) a step of said gateway apparatus deciding on whether data from at least one of said first and second communication networks has been delayed in arriving or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.]…and

(b) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired, in case the result of said decision indicates that data from at least one of said first and second communication networks has been delayed in arrival or lost [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

Cooklev et al. do not teach based on at least one of the following events (i) and (ii): (i) comparing the number of encoded data actually acquired in a preset period and the number of encoded data expected to be acquired in said period; and (ii) whether or not succeeding in acquiring encoded data upon attempting to acquire the encoded data in a preset period.

However, Abdeliah et al. teach based on at least one of the following events (i) and (ii):

(i) comparing the number of encoded data actually acquired in a preset period and the number of encoded data expected to be acquired in said period; and

(ii) whether or not succeeding in acquiring encoded data upon attempting to acquire the encoded data in a preset period [Abdeliah, fig. 2 step 303, paragraph 0038, “a first decision block 303 determines whether or not there are any missing packets.

The missing packets can be determined by checking the packet sequence number or by keeping a running count of the number of encoded packets or a current time base counter to determine when to expect the next packet", Packets can be determined as missing based on a time counter that tracks when to expect a packet.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Abdeliah et al. into Cooklev et al., since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Abdeliah et al. suggest the beneficial use of detecting delay in a gateway that services a packet switched and PSTN network [Abdeliah, paragraphs 0031 & 0038] in the analogous art of error handling in media gateways.

10. Claims 49-51, 57-59, and 68 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cooklev (US Patent No. 6,574,218, which was cited in the previous action) in view of Abdeliah et al. (US PG Pub 2006/0209898) and Joseph et al. (US Patent No. 6,973,024, which was cited in the previous action).

11. **As per claim 49,** Cooklev et al. in view of Abdeliah et al. teach the gateway apparatus according to claim 48. Cooklev et al. also teach wherein

said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, "a circuit-switched network such as PSTN 108", The circuit switched network (or PSTN) is a line-switched network.]; and

said second communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, "A packet network 102"].

Cooklev et al. do not teach wherein said apparatus comprises: first decision means for deciding on whether encoded data from said line-switched network has been delayed in arrival or lost; and first control means for performing control so that, if the result of said decision indicates that said encoded data has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on said packet-switched network to execute error concealment processing is generated or the encoded data acquired is discarded.

However, Joseph et al. teach wherein said apparatus comprises: first decision means for deciding on whether encoded data from said line-switched network has been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52, "A revertive switchover is a switchover that takes place after standby modem element 22 has been switched into service due to a failure of main modem element 24", Once a modem has failed, data coming from the PSTN will be lost. In response to this, a switch is made from one modem to another.]; and

first control means for performing control so that, if the result of said decision indicates that said encoded data has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on said packet-switched network to execute error concealment processing is generated or the encoded data acquired is discarded [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a

failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

12. **As per claim 50,** Cooklev et al. in view of Abdeliah et al. teach the gateway apparatus according to claim 48. Cooklev et al. also teach wherein

said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, "a circuit-switched network such as PSTN 108", The circuit switched network (or PSTN) is a line-switched network.]; and

said second communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, "A packet network 102"]; and

wherein said decision means comprises:

second decision means for deciding on whether encoded data from said packet-switched network have been delayed in arriving or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in

order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.].

Cooklev et al. do not teach second control means for performing control so that, if the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on the side of said line-switched network to execute error concealment processing is generated, or the encoded data delayed in arrival is discarded.

However, Joseph et al. teach second control means for performing control so that, if the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on the side of said line-switched network to execute error concealment processing is generated, or the encoded data delayed in arrival is discarded [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a

media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64] in the analogous art of media gateways.

13. **As per claim 51,** Cooklev et al. in view of Abdeliah et al. and Joseph et al. teach the gateway apparatus according to claim 49. Cooklev et al. also teach wherein

said decision means comprises:

second decision means for deciding on whether encoded data from said packet-switched network have been delayed in arriving or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, “The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los”, The packet processor decides if there is delay (out of order) or packet loss.]; and

second control means for performing control so that, if the result of said decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, encoded data for causing a destination terminal of transmission on the side of said line- switched network to execute error concealment processing is generated, or the encoded data delayed in arrival is discarded [Cooklev, fig. 5, column 9, element 710, column 9, lines 47-51, “Upon detection of a lost packet, the packet processor 704 determines the importance of the lost packet. If the lost packet is "important," the missing packet reconstruction block or process 710 tries to recover a lower-quality version of the lost data from other packets”, If the packet is lost and

deemed important, then the error concealment process begins to replicate a low quality version of the lost packet.].

14. **As per claim 53,** Cooklev et al. teach a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types, said apparatus comprising… wherein said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, "a circuit-switched network such as PSTN 108", The circuit switched network (or PSTN) is a line-switched network.]; and

wherein said second communication network is a packet-switch network [Cooklev, fig. 2, element 102, column 6, line 62, "A packet network 102"].

Cooklev et al. do not teach first decision means for deciding on whether the encoded data from said line-switched network have been delayed in arrival or lost; first control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded; first decoding means for decoding the encoded data from said line-switched network, as processed by said first control means, and for outputting the resulting decoded data; and first encoding means for encoding the data obtained from said error concealment processing from said first control means and said decoded data from said first decoding means in accordance with an encoding system different from the encoding system for said encoded data from said line-switched network.

However, Joseph et al. teach first decision means for deciding on whether the encoded data from said line-switched network have been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52, "A revertive switchover is a switchover that takes place after standby modem element 22 has been switched into service due to a failure of main modem element 24", Once a modem has failed, data coming from the PSTN will be lost. In response to this, a switch is made from one modem to another.];

first control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.];

first decoding means for decoding the encoded data from said line-switched network, as processed by said first control means, and for outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 12-16, "Media gateway 12 serves as an interface between the PSTN and IP network, and it may typically digitize, encode, and compress originating voice traffic (i.e., ingress traffic) into packets for transport over managed IP networks", The gateway decodes (digitizes) voice data from the PSTN and then encodes it into packets for the IP network.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

However Abdeliah et al. teach first encoding means for encoding the data obtained from said error concealment processing from said first control means and said decoded data from said first decoding means in accordance with an encoding system different from the encoding system for said encoded data from said line-switched network [Abdeliah, paragraph 0012, "During the normal decoding process, pre-processing of the required SCA parameters will occur and the results stored in the past-history buffer. If a speech frame is detected to be lost or in error, then extrapolation modules are executed and replacement SCA parameters are generated and sent as the parameters required by the SCA. In this way, the information transfer to the SCA is transparent, and the SCA processing continues as usual. The listener will not normally notice that a speech frame has been lost because of the smooth transition between the last-received, lost, and next-received speech frames", In the event of an error, error concealment processing is performed before the data is decoded.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Abdeliah et al. into Cooklev et al.,

since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Abdeliah et al. suggest the beneficial use of performing error concealment processing in a gateway that services a packet switched and PSTN network [Abdeliah, paragraphs 0012 & 0031] in the analogous art of error handling in media gateways.

15. **As per claim 54,** Cooklev et al. teach a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different .types, said apparatus comprising:

second decision means for deciding on whether the encoded data from said packet-switched network have been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.]… wherein said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, "a circuit-switched network such as PSTN 108", The circuit switched network (or PSTN) is a line-switched network.], and wherein said second communication network is a packet-switch network [Cooklev, fig. 2, element 102, column 6, line 62, "A packet network 102"].

Cooklev et al. do not teach second control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded; second decoding means for decoding the

encoded data from said packet-switched network, as processed by said second control means, and for outputting the resulting decoded data; and second encoding means for encoding the data obtained from said error concealment processing from said second control means and said decoded data from said second decoding means in accordance with an encoding system different from the encoding system for said encoded data from said packet-switched network.

However, Joseph et al. teach second control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, “The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time”, Since modem failure caused the switchover, some data will be lost as a result.];

second decoding means for decoding the encoded data from said packet-switched network, as processed by said second control means, and for outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, “Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network”, The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

However, Abdeliah et al. teach second encoding means for encoding the data obtained from said error concealment processing from said second control means and said decoded data from said second decoding means in accordance with an encoding system different from the encoding system for said encoded data from said packet-switched network [Abdeliah, paragraph 0012, "During the normal decoding process, pre-processing of the required SCA parameters will occur and the results stored in the past-history buffer. If a speech frame is detected to be lost or in error, then extrapolation modules are executed and replacement SCA parameters are generated and sent as the parameters required by the SCA. In this way, the information transfer to the SCA is transparent, and the SCA processing continues as usual. The listener will not normally notice that a speech frame has been lost because of the smooth transition between the last-received, lost, and next-received speech frames", In the event of an error, error concealment processing is performed before the data is decoded.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Abdeliah et al. into Cooklev et al.,

since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Abdeliah et al. suggest the beneficial use of performing error concealment processing in a gateway that services a packet switched and PSTN network [Abdeliah, paragraphs 0012 & 0031] in the analogous art of error handling in media gateways.

16. **As per claim 55,** Cooklev et al. in view of Abdeliah et al. and Joseph et al. teach the gateway apparatus according to claim 53. Cooklev et al. also teach wherein said apparatus comprises:

second decision means for deciding on whether the encoded data from said packet-switched network have been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.].

Cooklev et al. do not teach second control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded; second decoding means for decoding the encoded data from said packet-switched network, as processed by said second control means, and for outputting the resulting decoded data; and second encoding means for encoding the data obtained from said error concealment processing from said second control means and said decoded data from said second decoding means in accordance

with an encoding system different from the encoding system for said encoded data from said packet-switched network.

However, Joseph et al. teach second control means for performing control so that, if the result of decision indicates that the encoded data from said line-switched network has been delayed in arrival or lost, data is generated by error concealment processing, or the acquired encoded data is discarded [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, “The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time”, Since modem failure caused the switchover, some data will be lost as a result.];

second decoding means for decoding the encoded data from said packet-switched network, as processed by said second control means, and for outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 16-19, “Media gateway 12 may also decompress, decode, and reassemble terminating voice traffic (i.e., egress traffic) for handoff to PSTN 16 via the local carrier's network”, The packet traffic is decoded into data, where it is then encoded into voice traffic format for PSTN networks.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a

media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

However, Abdeliah et al. suggest second encoding means for encoding the data obtained from said error concealment processing from said second control means and said decoded data from said second decoding means in accordance with an encoding system different from the encoding system for said encoded data from said packet-switched network [Abdeliah, paragraph 0012, "During the normal decoding process, pre-processing of the required SCA parameters will occur and the results stored in the past-history buffer. If a speech frame is detected to be lost or in error, then extrapolation modules are executed and replacement SCA parameters are generated and sent as the parameters required by the SCA. In this way, the information transfer to the SCA is transparent, and the SCA processing continues as usual. The listener will not normally notice that a speech frame has been lost because of the smooth transition between the last-received, lost, and next-received speech frames", In the event of an error, error concealment processing is performed before the data is decoded.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Abdeliah et al. into Cooklev et al., since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Abdeliah et al. suggest the beneficial use of performing error concealment processing in a gateway that services a packet switched

and PSTN network [Abdeliah, paragraphs 0012 & 0031] in the analogous art of error handling in media gateways.

17. **As per claim 57,** Cooklev et al. in view of Abdeliah et al. teach the method for processing encoded data by a gateway apparatus according to claim 56. Cooklev et al. do not teach said method further comprising: (a1) a step of said gateway apparatus deciding on whether encoded data from said line-switched network has been delayed in arrival or lost; and (b1) a step of said gateway apparatus generating encoded data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that data from said line- switched network has been delayed in arrival or lost.

However, Joseph et al. teaches said method further comprising:

(a1) a step of said gateway apparatus deciding on whether encoded data from said line-switched network has been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52, "A revertive switchover is a switchover that takes place after standby modem element 22 has been switched into service due to a failure of main modem element 24", Once a modem has failed, data coming from the PSTN will be lost. In response to this, a switch is made from one modem to another.]; and

(b1) a step of said gateway apparatus generating encoded data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that data from said line-switched network has been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an

unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

18. **As per claim 58,** Cooklev et al. in view of Abdeliah et al. teach the method for processing encoded data by a gateway apparatus according to claim 56. Cooklev et al. also teach wherein said first communication network is a packet- switched network and said second communication network is a line-switched network; said method further comprising:

(a2) a step of said gateway apparatus deciding on whether encoded data from said packet-switched network has been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.].

Cooklev et al. do not teach based on at least one of the following events (i) and (ii): (i) comparing the number of encoded data actually acquired in a preset period and the number of encoded data expected to be acquired in said period; and (ii) whether or not succeeding in acquiring encoded data upon attempting to acquire the encoded data in a preset period, (b2) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said packet- switched network has been delayed in arrival or lost.

However, Abdeliah et al. teach based on at least one of the following events (i) and (ii):

(i) comparing the number of encoded data actually acquired in a preset period and the number of encoded data expected to be acquired in said period; and

(ii) whether or not succeeding in acquiring encoded data upon attempting to acquire the encoded data in a preset period [Abdeliah, fig. 2 step 303, paragraph 0038, “a first decision block 303 determines whether or not there are any missing packets. The missing packets can be determined by checking the packet sequence number or by keeping a running count of the number of encoded packets or a current time base counter to determine when to expect the next packet”, Packets can be determined as missing based on a time counter that tracks when to expect a packet.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Abdeliah et al. into Cooklev et al., since Cooklev et al. suggests a media gateway between a PSTN and IP network that

performs error handling for packets, and Abdeliah et al. suggest the beneficial use of detecting delay in a gateway that services a packet switched and PSTN network [Abdeliah, paragraphs 0031 & 0038] in the analogous art of error handling in media gateways.

However, Joseph et al. teach (b2) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said packet- switched network has been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

19. **As per claim 59,** Cooklev et al. in view of Abdeliah et al. and Joseph et al. teach the method for processing encoded data by a gateway apparatus according to claim 57.

Cooklev et al. also teach wherein said first communication network is a packet-switched network and said second communication network is a line-switched network; said method further comprising:

(a2) a step of said gateway apparatus deciding on whether encoded data from said packet-switched network has been delayed in arrival or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, “The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in order, and, second, the presence of packet los”, The packet processor decides if there is delay (out of order) or packet loss.].

Cooklev et al. do not teach (b2) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said packet- switched network has been delayed in arrival or lost.

However, Joseph et al. teach (b2) a step of said gateway apparatus generating data for causing a destination terminal of transmission to execute error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said packet- switched network has been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, “The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass

before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

20. **As per claim 61,** Cooklev et al. teach a method for processing encoded data by a gateway apparatus for conducting connection between a first communication network and a second communication network of respective different types, said method comprising… wherein said first communication network is a line-switched network [Cooklev, fig. 2, element 108, column 6, lines 65-66, "a circuit-switched network such as PSTN 108", The circuit switched network (or PSTN) is a line-switched network.]; and wherein said second communication network is a packet-switched network [Cooklev, fig. 2, element 102, column 6, line 62, "A packet network 102"].

Cooklev et al. do not teach (a1) a step of said gateway apparatus deciding on whether encoded data from said line-switched network has been delayed in arrival or lost; and (b1) a step of said gateway apparatus generating data by error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said line-switched network has been delayed in

arriving or lost; (c1) a step of said gateway apparatus decoding encoded data from said line-switched network, processed in said step (b1) and outputting the resulting decoded data; and (d1) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system different from that for encoded data from said line-switched network and outputting the resulting data.

However, Joseph et al. teach (a1) a step of said gateway apparatus deciding on whether encoded data from said line-switched network has been delayed in arrival or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52, "A revertive switchover is a switchover that takes place after standby modem element 22 has been switched into service due to a failure of main modem element 24", Once a modem has failed, data coming from the PSTN will be lost. In response to this, a switch is made from one modem to another.]; and

(b1) a step of said gateway apparatus generating data by error concealment processing or discarding encoded data acquired in case the result of said decision indicates that the encoded data from said line-switched network has been delayed in arriving or lost [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.];

(c1) a step of said gateway apparatus decoding encoded data from said line-switched network, processed in said step (b1) and outputting the resulting decoded data [Joseph, fig. 1, elements 12, 16, & 18, column 4, lines 12-16, "Media gateway 12 serves as an interface between the PSTN and IP network, and it may typically digitize, encode, and compress originating voice traffic (i.e., ingress traffic) into packets for transport over managed IP networks", The gateway decodes (digitizes) voice data from the PSTN and then encodes it into packets for the IP network.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

However, Abdeliah et al. teach (d1) a step of said gateway apparatus encoding the data obtained by said error concealment processing and said decoded data in accordance with an encoding system different from that for encoded data from said line-switched network and outputting the resulting data [Abdeliah, paragraph 0012, "During the normal decoding process, pre-processing of the required SCA parameters will occur and the results stored in the past-history buffer. If a speech frame is detected to be lost or in error, then extrapolation modules are executed and replacement SCA parameters are generated and sent as the parameters required by the SCA. In this way, the

information transfer to the SCA is transparent, and the SCA processing continues as usual. The listener will not normally notice that a speech frame has been lost because of the smooth transition between the last-received, lost, and next-received speech frames", In the event of an error, error concealment processing is performed before the data is decoded.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Abdeliah et al. into Cooklev et al., since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Abdeliah et al. suggest the beneficial use of performing error concealment processing in a gateway that services a packet switched and PSTN network [Abdeliah, paragraphs 0012 & 0031] in the analogous art of error handling in media gateways.

21. **As per claim 68,** Cooklev et al. teach a method for processing encoded data from at least one communication network out of a line-switched network and a packet-switched network to the other communication network in a gateway system conducting connection between said line-switched network and said packet-switched network of respective different types, said method comprising:

in case encoded data from at least one of said line-switched network and the packet- switched network has been delayed in arriving or lost [Cooklev, fig. 5, element 704, column 9, lines 39-43, "The packet processor 704 extracts the sequence number present in the header of every packet and detects, first, whether packets have arrived in

order, and, second, the presence of packet los", The packet processor decides if there is delay (out of order) or packet loss.].

Cooklev et al. do not teach based on at least one of the following events (i) and (ii): (i) comparing the number of encoded data actually acquired in a preset period and the number of encoded data expected to be acquired in said period; and (ii) whether or not succeeding in acquiring encoded data upon attempting to acquire the encoded data in a preset period, performing processing for generating data for causing a destination terminal of transmission on the other communication network to execute error concealment processing, or discarding the encoded data acquired to send said encoded data.

However, Abdeliah et al. teach based on at least one of the following events (i) and (ii):

(i) comparing the number of encoded data actually acquired in a preset period and the number of encoded data expected to be acquired in said period; and

(ii) whether or not succeeding in acquiring encoded data upon attempting to acquire the encoded data in a preset period [Abdeliah, fig. 2 step 303, paragraph 0038, "a first decision block 303 determines whether or not there are any missing packets. The missing packets can be determined by checking the packet sequence number or by keeping a running count of the number of encoded packets or a current time base counter to determine when to expect the next packet", Packets can be determined as missing based on a time counter that tracks when to expect a packet.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teaching of Abdeliah et al. into Cooklev et al., since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Abdeliah et al. suggest the beneficial use of detecting delay in a gateway that services a packet switched and PSTN network [Abdeliah, paragraphs 0031 & 0038] in the analogous art of error handling in media gateways.

However, Joseph et al. teach performing processing for generating data for causing a destination terminal of transmission on the other communication network to execute error concealment processing, or discarding the encoded data acquired to send said encoded data [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 60-64, "The switchover that occurs after an unanticipated failure uses the same basic methodology, but since one modem element has failed and some time, however short, must pass before a failure can be detected, some data may be lost during the switchover time", Since modem failure caused the switchover, some data will be lost as a result.].

Thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the teachings of Joseph et al. into Cooklev, since Cooklev et al. suggests a media gateway between a PSTN and IP network that performs error handling for packets, and Joseph et al. suggests the beneficial use of a media gateway between a PSTN and IP network such as to perform error handling for lost voice traffic [Joseph, fig. 3, elements 16, 22, & 24, column 5, lines 49-52 & 60-64] in the analogous art of media gateways.

Allowable Subject Matter

22. Claims 64-67 and 69 are allowed.

Conclusion

23. **The prior art made of record and not relied upon is considered pertinent to applicant's disclosure**.

The reference, Prieto (US Patent No. 5,097,822), teaches performing error concealment processing on encoded voice data.

24. **The Examiner has cited particular columns and line numbers or paragraphs in the references applied to the claims above for the convenience of the applicant.** Although the specified citations are representative of the teachings of the art and are applied to specific limitations within the individual claim, other passages and figures may apply as well. It is respectfully requested from the applicant in preparing responses, to fully consider the references in their entirety as potentially teaching all or part of the claimed invention, as well as the context of the passage as taught by the prior art or disclosed by the Examiner.

In the case of amending the claimed invention, the Applicant is respectfully requested to indicate the portion(s) of the specification which dictate(s) the structure relied on for proper interpretation and also to verify and ascertain the metes and bounds of the claimed invention.

25. **If the Applicant is of the opinion that an interview would help advance prosecution in this case, they are welcome to call the Examiner, Paul Masur, at the number listed below to schedule an interview.** The Examiner prefers interview

requests be accompanied with a detailed agenda via fax. The Examiner's fax number is (571) 270-8297. The Examiner is willing to consider proposed amendments, clarify rejections, and discuss any other issues that are presented by the Applicant. Please note that the Examiner may not be able to accommodate all requests due to scheduling constraints. It is recommended that interview requests be sent with ample time to schedule an interview.

26. **Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Masur whose telephone number is (571) 270-7297.** The examiner can normally be reached on Monday through Friday from 7:00AM to 4:30PM (Eastern Time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ricky Ngo/
Supervisory Patent Examiner, Art Unit 2464

/P. M./
Examiner, Art Unit 2464